

WHAT IS CLAIMED IS:

1. A tissue product comprising a fibrous substrate material and a lubricating formulation, the lubricating formulation being present on the tissue product in an amount of from about 1% (by weight of the dry tissue) to about 30%
5 (by weight of the dry tissue) and comprising from about 10% (by total weight of the formulation) to about 89% (by total weight of the formulation) of an emollient, from about 10% (by total weight of the formulation) to about 50% (by total weight of the formulation) of a structurant, and from about
10 0.1% (by total weight of the formulation) to about 40% (by total weight of the formulation) of a rheology enhancer.

2. The tissue product as set forth in claim 1 wherein the lubricating formulation is present on the tissue product in an amount of from about 1% (by weight of the dry tissue) to about 20% (by weight of the dry tissue).

3. The tissue product as set forth in claim 1 wherein the lubricating formulation is present on the tissue product in an amount of from about 1% (by weight of the dry tissue) to about 10% (by weight of the dry tissue).

4. The tissue product as set forth in claim 1 wherein the emollient is present in an amount of from about 30% (by total weight of the formulation) to about 80% (by total weight of the formulation).

5. The tissue product as set forth in claim 1 wherein the emollient is present in an amount of from about 60% (by total weight of the formulation) to about 80% (by total weight of the formulation).

6. The tissue product as set forth in claim 1 wherein the structurant is present in an amount of from about 20% (by

total weight of the formulation) to about 40% (by total weight of the formulation).

7. The tissue product as set forth in claim 1 wherein the rheology enhancer is present in an amount of from about 0.5% (by total weight of the formulation) to about 30% (by total weight of the formulation).

8. The tissue product as set forth in claim 1 wherein the rheology enhancer is present in an amount of from about 1% (by total weight of the formulation) to about 25% (by total weight of the formulation).

9. The tissue product as set forth in claim 1 wherein the lubricating formulation has a melt point viscosity of from about 5000 cPs to about 1,000,000 cPs.

10. The tissue product as set forth in claim 1 wherein the lubricating formulation has a melt point viscosity of from about 50,000 cPs to about 800,000 cPs.

11. The tissue product as set forth in claim 1 wherein the lubricating formulation has a melt point viscosity of from about 100,000 cPs to about 500,000 cPs.

12. The tissue product as set forth in claim 1 wherein the lubricating formulation has a process temperature viscosity of from about 50 cPs to about 50,000 cPs.

13. The tissue product as set forth in claim 1 wherein the lubricating formulation has a process temperature viscosity of from about 75 cPs to about 10,000 cPs.

14. The tissue product as set forth in claim 1 wherein the lubricating formulation has a process temperature viscosity of from about 80 cPs to about 5,000 cPs.

15. The tissue product as set forth in claim 1 wherein the lubricating formulation has a penetration hardness of from about 40 to about 140.

16. The tissue product as set forth in claim 1 wherein the lubricating formulation has a penetration hardness of from about 60 to about 120.

17. The tissue product as set forth in claim 1 further comprising a hydrophilic surfactant.

18. The tissue product as set forth in claim 1 wherein the lubricating formulation further comprises an additional ingredient selected from the group consisting of antifoaming agents, antimicrobial actives, antiviral actives, antifungal
5 actives, antiseptic actives, antioxidants, humectants, cosmetic astringents, drug astringents, biological additives, colorants, deodorants, film formers, fragrances, lubricants, natural moisturizing agents, skin conditioning agents, skin exfoliating agents, skin protectants, solvents, hydrophilic
10 surfactants, and UV absorbers.

19. The tissue product as set forth in claim 1 wherein emollient is selected from the group consisting of petrolatum, mineral oil, mineral jelly, isoparaffins, vegetable oils, avocado oil, borage oil, canola oil, castor
5 oil, chamomile, coconut oil, corn oil, cottonseed oil, evening primrose oil, safflower oil, sunflower oil, soybean oil, sweet almond, and the like, lanolin, partially hydrogenated vegetable oils, polydimethylsiloxanes, methicone, cyclomethicone, dimethicone, dimethiconol,
10 trimethicone, organo-siloxanes, silicone elastomer, gums, resins, fatty acid esters (esters of C₆-C₂₈ fatty acids and C₆-C₂₈ fatty alcohols), glyceryl esters and derivatives, fatty

acid ester ethoxylates, alkyl ethoxylates, C₁₂-C₂₈ fatty
alcohols, C₁₂-C₂₈ fatty acids, C₁₂-C₂₈ fatty alcohol ethers,
15 Guerbet alcohols, Guerbet Acids, Guerbet Esters, and
combinations thereof.

20. The tissue product as set forth in claim 1 wherein
the structurant has a melting point of from about 45°C to
about 85°C.

21. The tissue product as set forth in claim 1 wherein
the structurant is selected from the group consisting of
animal waxes, vegetable waxes, mineral waxes, synthetic
waxes, polymers, bayberry wax, beeswax, stearyl dimethicone,
5 stearyl trimethicone, C₂₀-C₂₂ dimethicone, C₂₀-C₂₂
trimethicone, C₂₄-C₂₈ dimethicone, C₂₀-C₂₂ trimethicone, C₃₀
alkyl dimethicone, candelilla wax, carnauba, ceresin, cetyl
esters, stearyl benzoate, behenyl benzoate, esparto,
hydrogenated cottonseed oil, hydrogenated jojoba oil,
10 hydrogenated jojoba wax, hydrogenated microcrystalline wax,
hydrogenated rice bran wax, japan wax, jojoba buffer, jojoba
esters, jojoba wax, lanolin wax, microcrystalline wax, mink
wax, motan acid wax, motan wax, ouricury wax, ozokerite
parrafin, PEG-6 beeswax, PEG-8 beeswax, rezowax, rice bran
15 wax, shellac wax, spent grain wax, spermaceti wax, synthetic
spermaceti wax, synthetic beeswax, synthetic candelilla wax,
synthetic carnuba wax, synthetic japan wax, synthetic jojoba
wax, C₁₄-C₂₈ fatty acid ethoxylates and C₁₄-C₂₈ fatty ethers,
C₁₄-C₂₈ fatty alcohols, C₁₄-C₂₈ fatty acids, polyethylene,
20 oxidized polyethylene, ethylene-alpha olefin copolymers,
ethylene homopolymers, C₁₈-C₄₅ olefins, poly alpha olefins ,
hydrogenated vegetable oils, polyhydroxy fatty acid esters,
polyhydroxy fatty acid amides, ethoxylated fatty alcohols and
esters of C₁₂-C₂₈ fatty acids, and C₁₂-C₂₈ fatty alcohols, and

25 combinations thereof.

22. The tissue product as set forth in claim 1 wherein the rheology enhancer is selected from the group consisting of combinations of alpha-olefins and styrene alone or in combination with mineral oil or petrolatum, combinations of
5 di-functional alpha-olefins and styrene alone or in combination with mineral oil or petrolatum, combinations of alpha-olefins and isobutene alone or in combination with mineral oil or petrolatum, ethylene/propylene/styrene copolymers alone or in combination with mineral oil or
10 petrolatum, butylene/ethylene/styrene copolymers alone or in combination with mineral oil or petrolatum, ethylene/vinyl acetate copolymers, polyethylene polyisobutylenes, polyisobutylenes, polyisobutylene, dextrin palmitate, dextrin palmitate ethylhexanoate, stearyl inulin, stearalkonium
15 bentonite, distearadimonium hectorite, and stearalkonium hectorite, styrene/butadiene/styrene copolymers, styrene/isoprene/styrene copolymers, styrene-ethylene/butylene-styrene copolymers, styrene-ethylene/propylene-styrene copolymers, (styrene-butadiene) n
20 polymers, (styrene-isoprene) n polymers, styrene-butadiene copolymers, and styrene-ethylene/propylene copolymers.

23. The tissue product as set forth in claim 1 wherein the lubricating formulation is introduced onto the tissue by a method selected from the group consisting of spraying, slot coating, gravure coating, flexigraphic coating, ink jet
5 printing, melt blown coating, and combinations thereof.

24. The tissue product as set forth in claim 1 wherein the tissue product is a facial tissue.

25. The tissue product as set forth in claim 1 wherein

the tissue product is a bath tissue.

26. The tissue product as set forth in claim 1 wherein the tissue product is a paper towel.

27. The tissue product as set forth in claim 1 wherein the tissue product is a napkin.

28. The tissue product as set forth in claim 1 wherein the tissue product is a single-ply tissue product.

29. The tissue product as set forth in claim 1 wherein the tissue product is a multi-ply tissue product.

30. A tissue product comprising a fibrous substrate material and a lubricating formulation, the lubricating formulation being present on the tissue product in an amount of from about 1% (by weight of the dry tissue) to about 30%
5 (by weight of the dry tissue) and comprising from about 10% (by total weight of the formulation) to about 89% (by total weight of the formulation) of an emollient, from about 10% (by total weight of the formulation) to about 50% (by total weight of the formulation) of a structurant, and from about
10 0.1% (by total weight of the formulation) to about 40% (by total weight of the formulation) of a rheology enhancer, wherein the lubricating formulation has a melt point viscosity of from about 5000 cPs to about 1,000,000 cPs and a process temperature viscosity of from about 50 cPs to about
15 50,000 cPs.

31. The tissue product as set forth in claim 30 wherein the lubricating formulation is present on the tissue product in an amount of from about 1% (by weight of the dry tissue) to about 20% (by weight of the dry tissue).

32. The tissue product as set forth in claim 30 wherein

the lubricating formulation is present on the tissue product in an amount of from about 1% (by weight of the dry tissue) to about 10% (by weight of the dry tissue).

33. The tissue product as set forth in claim 30 wherein the emollient is present in an amount of from about 30% (by total weight of the formulation) to about 80% (by total weight of the formulation).

34. The tissue product as set forth in claim 30 wherein the emollient is present in an amount of from about 60% (by total weight of the formulation) to about 80% (by total weight of the formulation).

35. The tissue product as set forth in claim 30 wherein the structurant is present in an amount of from about 20% (by total weight of the formulation) to about 40% (by total weight of the formulation).

36. The tissue product as set forth in claim 30 wherein the rheology enhancer is present in an amount of from about 0.5% (by total weight of the formulation) to about 30% (by total weight of the formulation).

37. The tissue product as set forth in claim 30 wherein the rheology enhancer is present in an amount of from about 1% (by total weight of the formulation) to about 25% (by total weight of the formulation).

38. The tissue product as set forth in claim 30 wherein the melt point viscosity is from about 50,000 cPs to about 800,000 cPs.

39. The tissue product as set forth in claim 30 wherein the melt point viscosity is from about 100,000 cPs to about

500,000 cPs.

40. The tissue product as set forth in claim 30 wherein the process temperature viscosity is from about 75 cPs to about 10,000 cPs.

41. The tissue product as set forth in claim 30 wherein the process temperature viscosity is from about 80 cPs to about 5,000 cPs.

42. The tissue product as set forth in claim 30 wherein the lubricating formulation has a penetration hardness of from about 40 to about 140.

43. The tissue product as set forth in claim 30 wherein the lubricating formulation has a penetration hardness of from about 60 to about 120.

44. The tissue product as set forth in claim 30 further comprising a hydrophilic surfactant.

45. The tissue product as set forth in claim 30 wherein emollient is selected from the group consisting of petrolatum, mineral oil, mineral jelly, isoparaffins, vegetable oils, avocado oil, borage oil, canola oil, castor
5 oil, chamomile, coconut oil, corn oil, cottonseed oil, evening primrose oil, safflower oil, sunflower oil, soybean oil, sweet almond, and the like, lanolin, partially hydrogenated vegetable oils, polydimethylsiloxanes, methicone, cyclomethicone, dimethicone, dimethiconol,
10 trimethicone, organo-siloxanes, silicone elastomer, gums, resins, fatty acid esters (esters of C₆-C₂₈ fatty acids and C₆-C₂₈ fatty alcohols), glyceryl esters and derivatives, fatty acid ester ethoxylates, alkyl ethoxylates, C₁₂-C₂₈ fatty alcohols, C₁₂-C₂₈ fatty acids, C₁₂-C₂₈ fatty alcohol ethers,

- 15 Guerbet alcohols, Guerbet Acids, Guerbet Esters, and combinations thereof.

46. The tissue product as set forth in claim 30 wherein the structurant has a melting point of from about 45°C to about 85°C.

47. The tissue product as set forth in claim 30 wherein the structurant is selected from the group consisting of animal waxes, vegetable waxes, mineral waxes, synthetic waxes, polymers, bayberry wax, beeswax, stearyl dimethicone, 5 stearyl trimethicone, C₂₀-C₂₂ dimethicone, C₂₀-C₂₂ trimethicone, C₂₄-C₂₈ dimethicone, C₂₀-C₂₂ trimethicone, C₃₀ alkyl dimethicone, candelilla wax, carnauba, ceresin, cetyl esters, stearyl benzoate, behenyl benzoate, esparto, hydrogenated cottonseed oil, hydrogenated jojoba oil, 10 hydrogenated jojoba wax, hydrogenated microcrystalline wax, hydrogenated rice bran wax, japan wax, jojoba buffer, jojoba esters, jojoba wax, lanolin wax, microcrystalline wax, mink wax, motan acide wax, motan wax, ouricury wax, ozokerite parrafin, PEG-6 beeswax, PEG-8 beeswax, rezowax, rice bran 15 wax, shellac wax, spent grain wax, spermaceti wax, synthetic spermaceti wax, synthetic beeswax, synthetic candelilla wax, synthetic carnuba wax, synthetic japan wax, synthetic jojoba wax, C₁₄-C₂₈ fatty acid ethoxylates and C₁₄-C₂₈ fatty ethers, C₁₄-C₂₈ fatty alcohols, C₁₄-C₂₈ fatty acids, polyethylene, 20 oxidized polyethylene, ethylene-alpha olefin copolymers, ethylene homopolymers, C₁₈-C₄₅ olefins, poly alpha olefins, hydrogenated vegetable oils, polyhydroxy fatty acid esters, polyhydroxy fatty acid amides, ethoxylated fatty alcohols and esters of C₁₂-C₂₈ fatty acids, and C₁₂-C₂₈ fatty alcohols, and 25 combinations thereof.

48. The tissue product as set forth in claim 30 wherein the rheology enhancer is selected from the group consisting of combinations of alpha-olefins and styrene alone or in combination with mineral oil or petrolatum, combinations of
5 di-functional alpha-olefins and styrene alone or in combination with mineral oil or petrolatum, combinations of alpha-olefins and isobutene alone or in combination with mineral oil or petrolatum, ethylene/propylene/styrene copolymers alone or in combination with mineral oil or
10 petrolatum, butylene/ethylene/styrene copolymers alone or in combination with mineral oil or petrolatum, ethylene/vinyl acetate copolymers, polyethylene polyisobutylenes, polyisobutylenes, polyisobutylene, dextrin palmitate, dextrin palmitate ethylhexanoate, stearyl inulin, stearalkonium
15 bentonite, distearadimonium hectorite, and stearalkonium hectorite, styrene/butadiene/styrene copolymers, styrene/isoprene/styrene copolymers, styrene-ethylene/butylene-styrene copolymers, styrene-ethylene/propylene-styrene copolymers, (styrene-butadiene) n
20 polymers, (styrene-isoprene) n polymers, styrene-butadiene copolymers, and styrene-ethylene/propylene copolymers.

49. The tissue product as set forth in claim 30 wherein the lubricating formulation further comprises an additional ingredient selected from the group consisting of antifoaming agents, antiviral actives, antimicrobial actives, antifungal
5 actives, antiseptic actives, antioxidants, cosmetic astringents, drug astringents, biological additives, colorants, deodorants, film formers, fragrances, lubricants, natural moisturizing agents, skin conditioning agents, skin exfoliating agents, skin protectants, solvents, hydrophilic
10 surfactants, and UV absorbers.

50. The tissue product as set forth in claim 30 wherein the lubricating formulation is introduced onto the tissue by a method selected from the group consisting of spraying, slot coating, gravure coating, ink jet printing, flexi graphic
5 coating, melt blown coating, and combinations thereof.

51. The tissue product as set forth in claim 30 wherein the tissue product is a facial tissue.

52. The tissue product as set forth in claim 30 wherein the tissue product is a bath tissue.

53. The tissue product as set forth in claim 30 wherein the tissue product is a paper towel.

54. The tissue product as set forth in claim 30 wherein the tissue product is a napkin.

55. The tissue product as set forth in claim 30 wherein the tissue product is a single-ply tissue product.

56. The tissue product as set forth in claim 30 wherein the tissue product is a multi-ply tissue product.

57. A method of manufacturing a facial tissue comprising introducing a lubricating formulation onto a tissue substrate, the lubricating formulation being present on the tissue substrate in an amount of from about 1% (by
5 weight of the dry tissue) to about 30% (by weight of the dry tissue) and comprising from about 10% (by total weight of the formulation) to about 89% (by total weight of the formulation) of an emollient, from about 10% (by total weight of the formulation) to about 50% (by total weight of the
10 formulation) of a structurant, and from about 0.1% (by total

weight of the formulation) to about 40% (by total weight of the formulation) of a rheology enhancer, wherein the lubricating formulation has a melt point viscosity of from about 5000 cPs to about 1,000,000 cPs and a process
15 temperature viscosity of from about 50 cPs to about 50,000 cPs.

58. The tissue product as set forth in claim 57 wherein the emollient is present in an amount of from about 30% (by total weight of the formulation) to about 80% (by total weight of the formulation).

59. The tissue product as set forth in claim 57 wherein the emollient is present in an amount of from about 60% (by total weight of the formulation) to about 80% (by total weight of the formulation).

60. The tissue product as set forth in claim 57 wherein the structurant is present in an amount of from about 20% (by total weight of the formulation) to about 40% (by total weight of the formulation).

61. The tissue product as set forth in claim 57 wherein the rheology enhancer is present in an amount of from about 0.5% (by total weight of the formulation) to about 30% (by total weight of the formulation).

62. The tissue product as set forth in claim 57 wherein the rheology enhancer is present in an amount of from about 1% (by total weight of the formulation) to about 25% (by total weight of the formulation).

63. The method as set forth in claim 57 wherein the lubricating formulation is introduced onto the tissue substrate by a method selected from the group consisting of

spraying, ink jet printing, slot coating, gravure coating,
5 flexi-graphic coating, melt blown coating, and combinations
thereof.